Project Broadsword

The Portal to the World of Information

Program Overview

A Data Access and Security Approach

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OUTLINE

Background

Broadsword

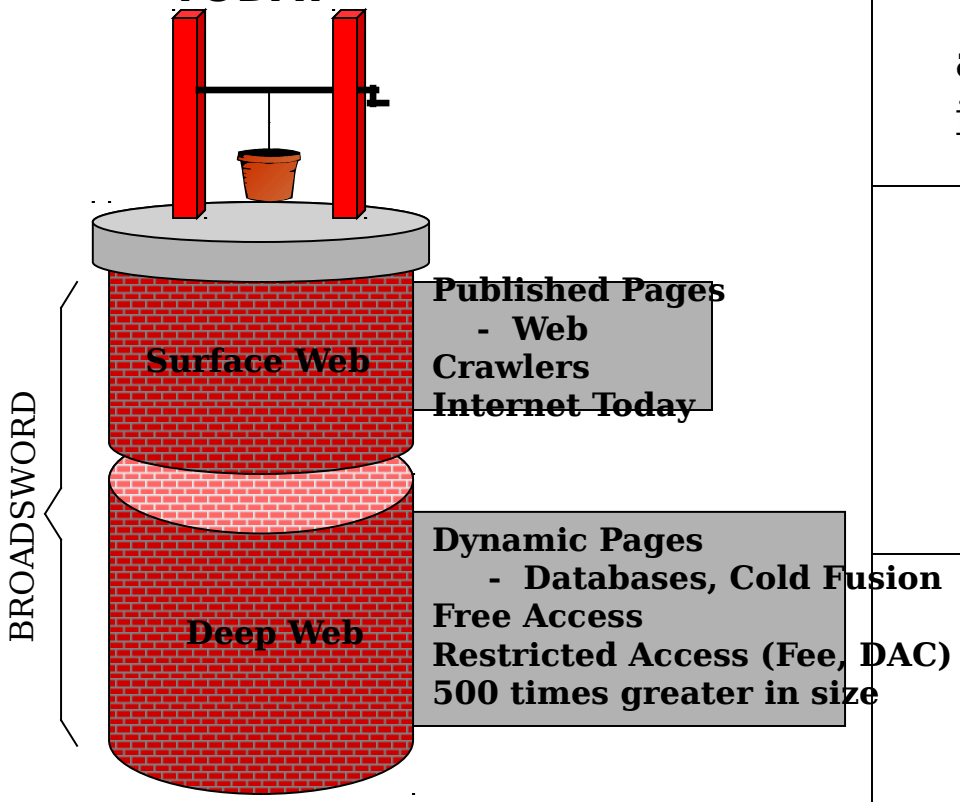
- **The Architecture**
- **The Client**

Status/Schedule

Summary

BACKGROUND

INTERNET/INTELINK TODAY



OBJECTIVE

To provide a single, secure architecture enabling access to information that exists anywhere.

CHALLENGES

Diverse Storage Mechanisms
Varying Product Delivery Strategies
Different File Formats
Differing Security Policies
Multiple Access Methodologies

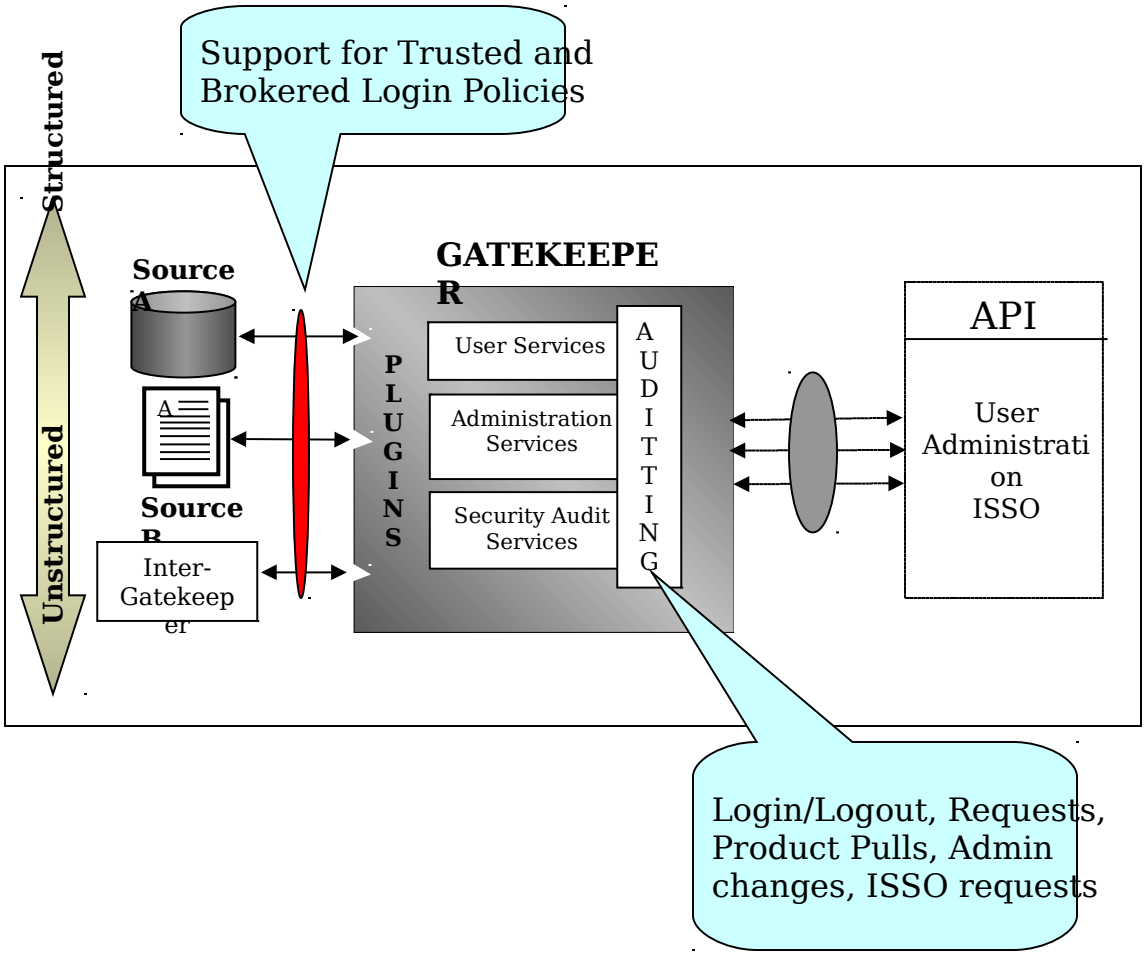
SPONSORSHIP

DIA (GIDP) - JIVA
AF Intel - AFDI
ACC - PCI3
AC2ISR - C2Link/Broadsword
NIMA - IPL

BROADSWORD COMPONENTS

Component Name	Purpose
Gatekeeper	Provides single interface to various sources for query, retrieval, and product request/ delivery. It also provides a single point in which users are authenticated and all actions audited.
Keymaster	Acts as a global map manager allowing for gatekeepers and their sources to become accessible to others who register with the same Keymaster.
Client	User interface which implements the Client/ Gatekeeper API and provides ISSO, System Administrator and General Searching Capabilities.

GATEKEEPER ARCHITECTURE



- Single API to access multiple sources of information
  - Both structured and **unstructured**
  - Retrieve elements, reports and products
  - Access to Imagery, Video, Audio and Text Products

- Meets DCID 1/16 or 6/3 Requirements for System High Mode

- Thin Layer of Code
  - Audit all user requests and accesses
  - Route request to appropriate sources
  - Join all responses

- Interface to specific sources

PLUG-INS

- Identifies to the Gatekeeper what services are provided by the source, e.g., keyword, geographic and query

- Identifies what sources are available to the user and what elements are queriable/returnable.

- Converts the API request format to the specific interface requirements to include translations and transformations

- Blocks unsupported query elements (e.g., Image ID in MIDB)

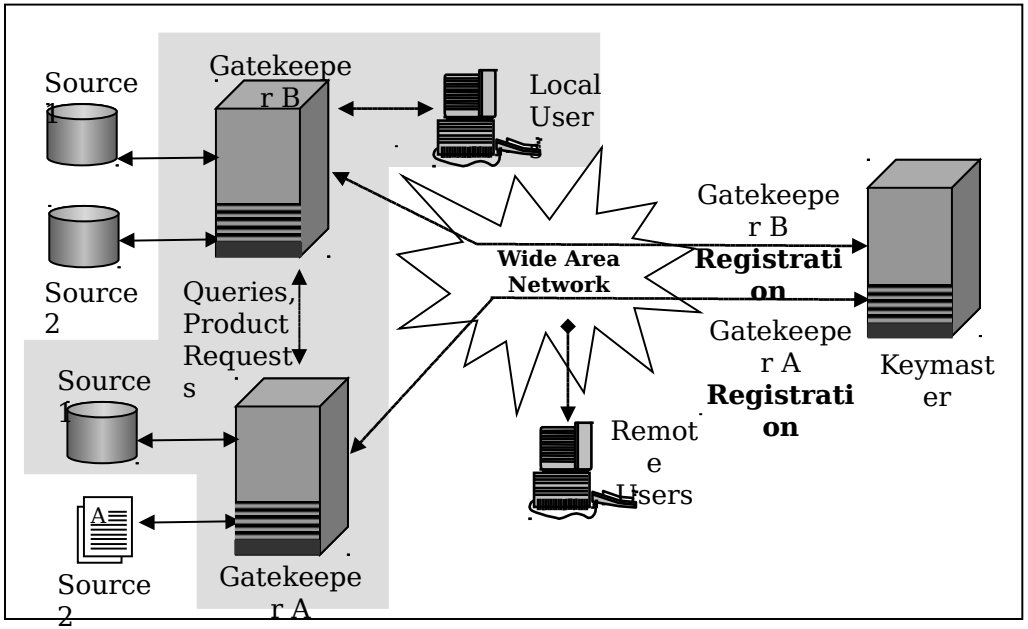
ENFORCES POLICY
PROTECTS SOURCE

AVAILABLE PLUG-INS

Automated Message Handling System (AMHS)
Air Operations Data Base (AODB)
Commercial Satellite Image Library (CSIL)
Demand Driven Direct Digital Dissemination (5D)
Image Exploitation Support System (IESS)
Intelink Hydra
Intelink MetaSearch
Imagery Product Library (IPL 1.0/2.1/2.5)
Military Equipment Parametric and Engineering Data Base (
Modernized Integrated Data Base (MIDB)
Space DB
Air Force Weather

Infosphere Management (ISM)
FIRES
Information Extraction Tool (IET)
Moving Target Indicator (MTIX) (2.0)
Web Link

KEYMASTER ARCHITECURE



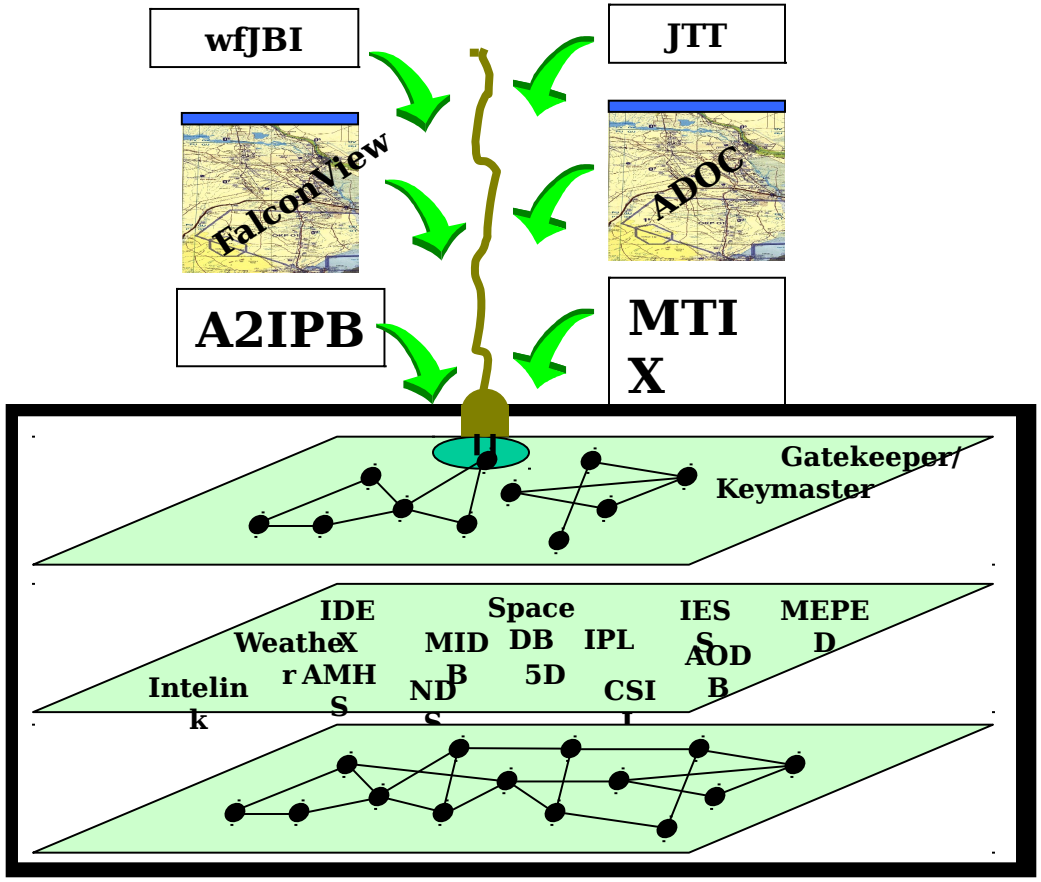
Registration

- Each Gatekeeper registers with the Keymaster for remote connectivity
- Keymaster distributes global maps and updates
- Based on Digital Certificate Technology (X.509)

Requests

- Gatekeepers use each of their Digital Certificates to authenticate each other before allowing request to be initiated
- Protects each Gatekeeper against other potential non-participating Gatekeepers
- After authentication, request is processed by each Gatekeeper

DATA ACCESS & SECURITY INFRASTRUCTURE



Multi-Tier Architecture

Applicati
ons

Securit
y
and
Data

Data
Sourc
es

Communications

CLIENT FUNCTIONALITY

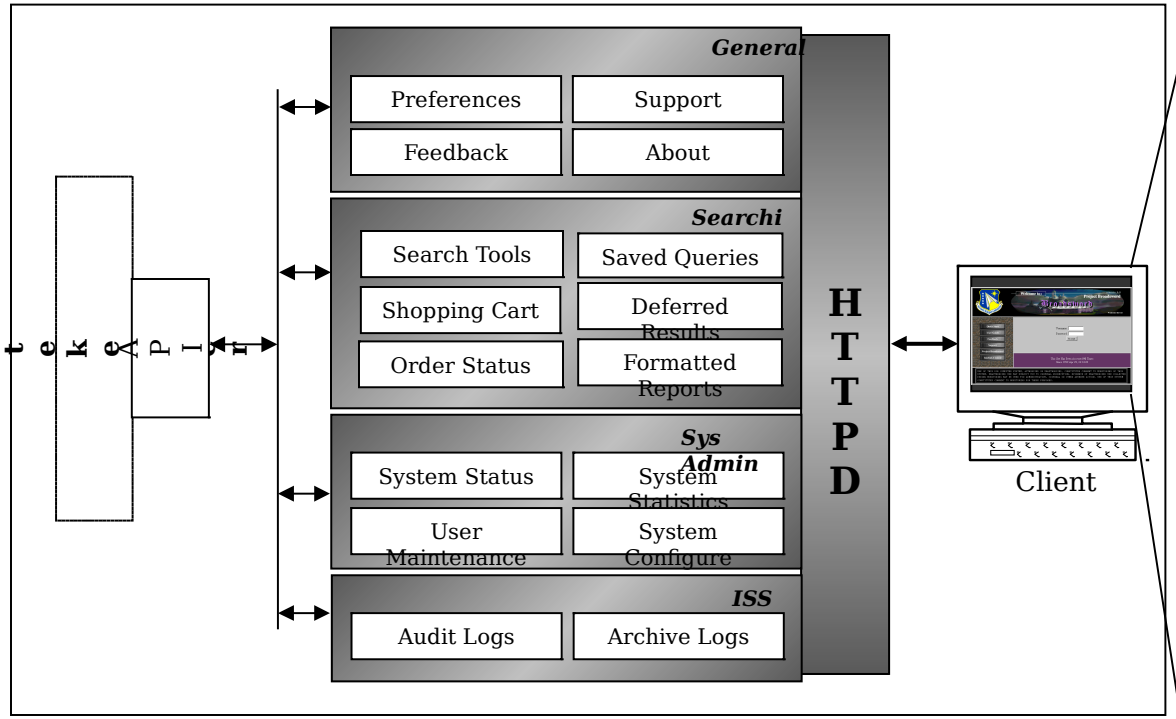
- General User Search, Navigate, Find and Acquire Informatio
  - Keyword, Query, Geospatial Requests
  - User Tailorable Returns
    - Attributes and Format
  - Batched Queries
  - Email Notification of New Products (IPL/5D)

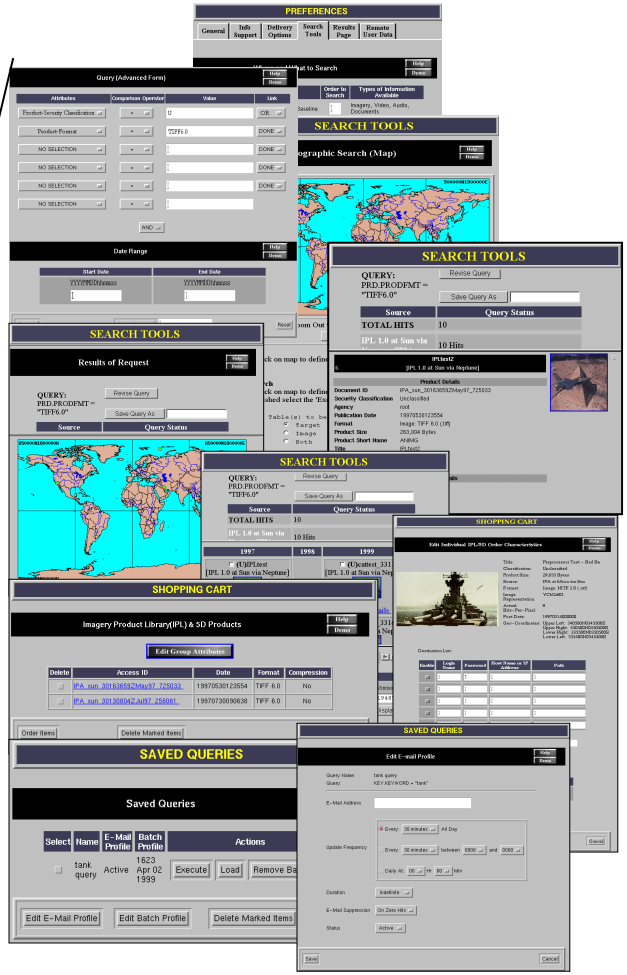
- Catalog

- Administration

- ISSO

BROADSWORD V2.0 - THE CLIENT



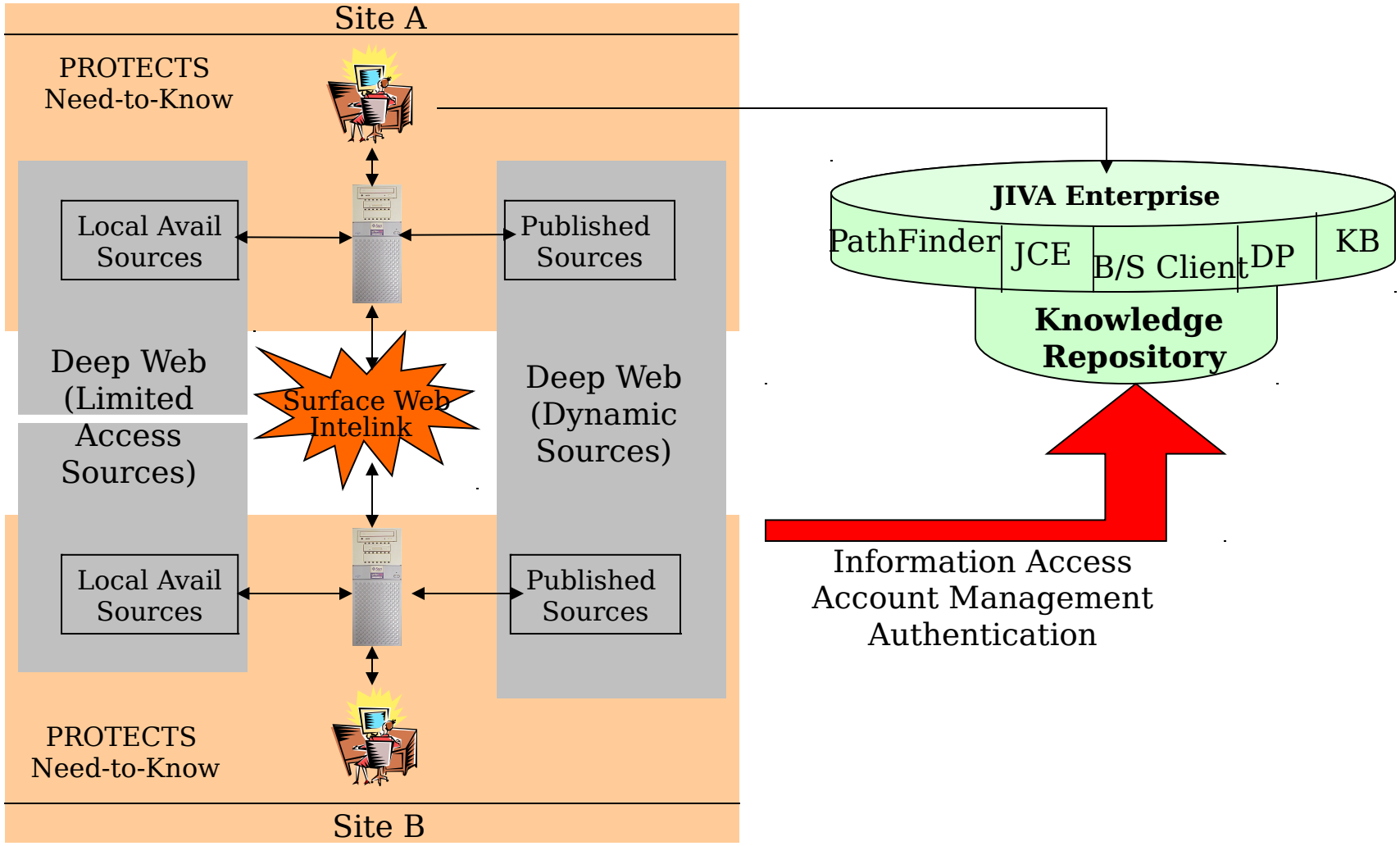


USERS OF BROADSWORD

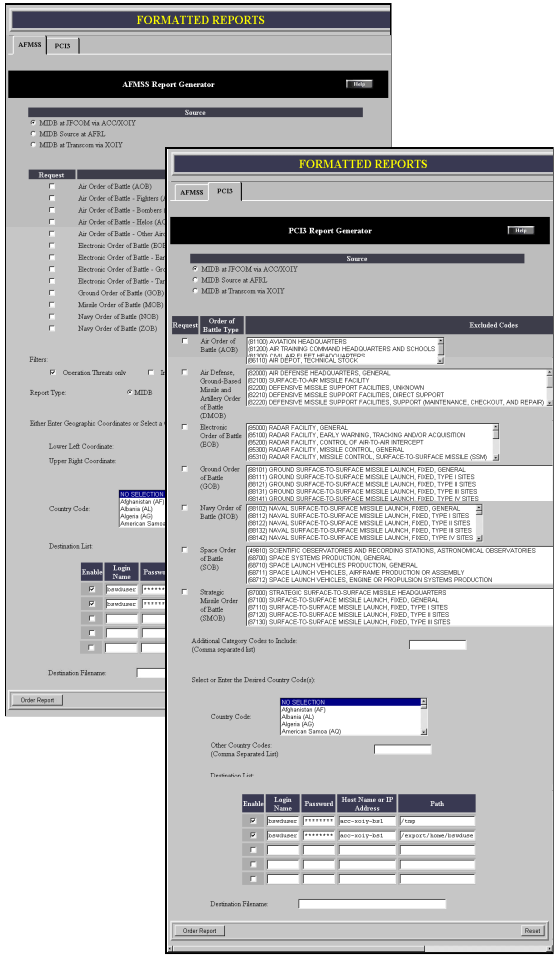
Support For:

JIVA (JADE)	**Access to sources/Security Archite**
IPL Client	**Access to 5D, IPL 1.0, IPL 2.1, IES User Interface**
PCI3	**Access to sources/Generation of MIDB Extracts**
A2IPB	**Access to sources**
FIRES	**Architecture (availability to many User Interface**
MTIX	**Architecture (availability to many**

JIVA
Building an Information Enterprise Architectur

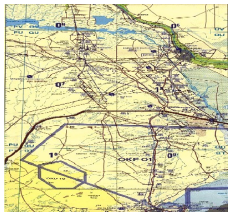


PCI3 SUPPORT



Broadsword Client

Generate Order of Battle Extract and send to AFMSS (MIDB, MIIDS'93)



Air Force Mission Support System

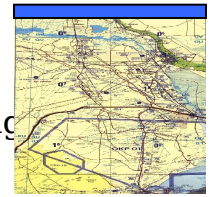
Generate Order of Battle Extract and send to ADOCS (PCI3 Fmt)

Automated
Deep
Operations
Coordination
System

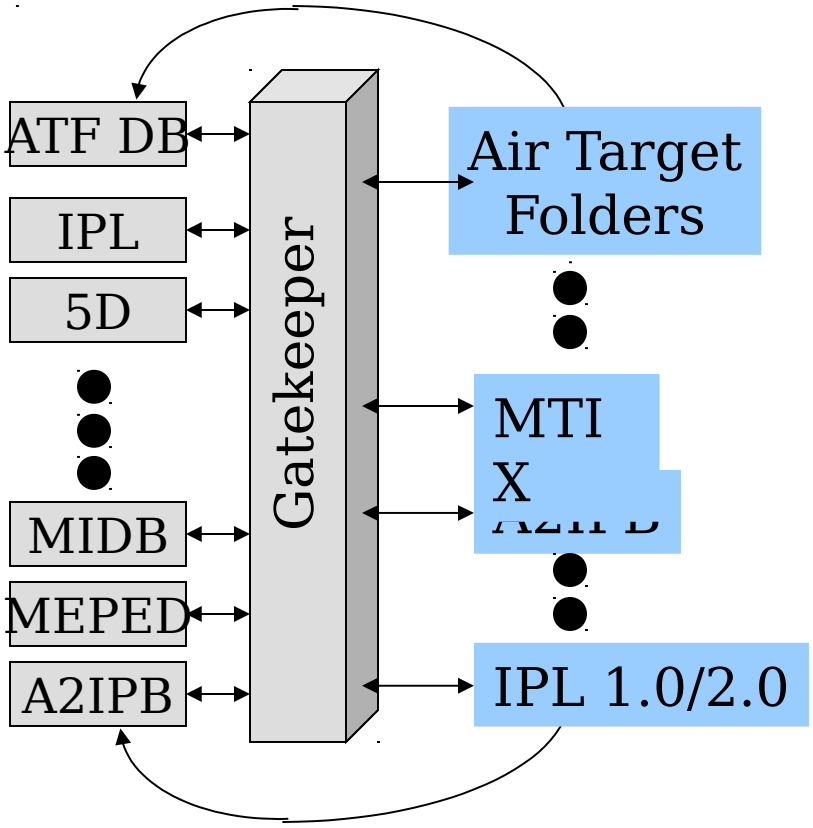
PC-I3 Tools

Threat File

FalconView
Mission Planning

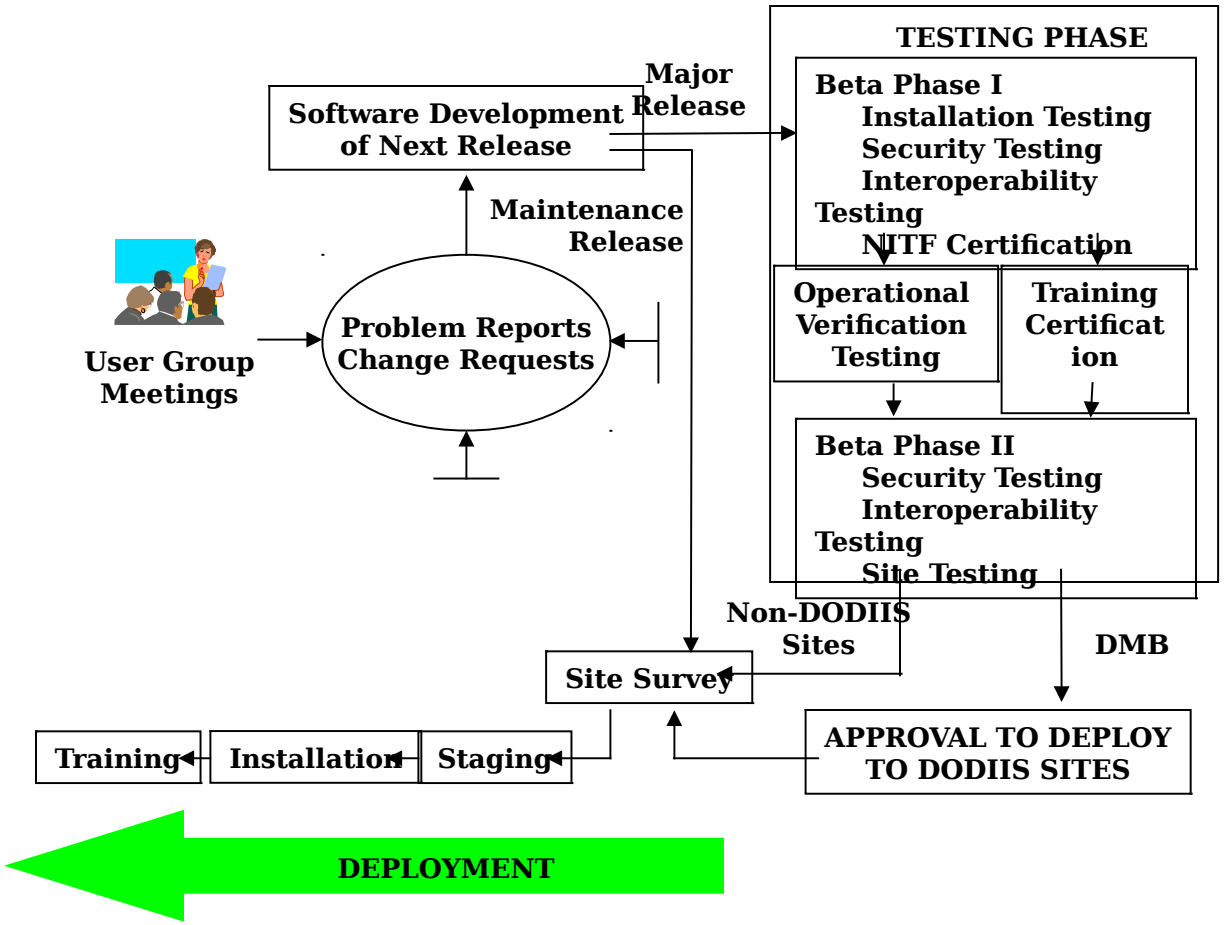


SUPPORT TO PRODUCTION



- Use infrastructure to gather information
- Build Product
- Store Product in Production Data Base
- Products become available to infrastructure users

DEVELOPMENT/DEPLOYMENT PROCESS



Players

- JITF
- JITC
- 497IG/DIA Security
- NIMA College
- DIA College

DOCUMENTATION

Version 2.0

- Security Documents (DCID 1/16, DIAM 50-4)
  - Concept Of Operations
  - Requirements/Analysis
  - Certification Test Plan
  - Certification Test Procedures
  - Security Test Results Template
- Functional Description
- Functional Requirements Document (4.0.7)
- Gatekeeper ICD
- Training Management Plan
- Test Procedures
- System Installation and Maintenance Guide
  - Site Acceptance Test Procedures
- On-Line User's Guide
- On-Line Computer Based Training (CBT)

Version 3.0

- Security Document (DCID 6/3)
  - SSAA
  - Appendix A: Security Requirements Ma
  - Appendix B: Test Procedures
- Gatekeeper ICD
- Training Management Plan
- Test Procedures
- System Installation and Maintenance Guide
  - Site Acceptance Test Procedures
- On-Line User's Guide
- On-Line Computer Based Training (CBT)

Visit our Web Site:

Internet:	http://www.rl.af.mil/bsword
Collateral:	http://199.56.91.107:8080/bsword
Intelink:	http://web1.rome.ic.gov/bsword

STANDALONE DEPLOYMENTS/STATUS
Version 2.0

ACC - PCI3 Sites

- ACC/XOIY
- AFRC
- ANG East
- ANG West
- Barksdale
- Shaw
- Davis Monthan
- JFCOM (Jiva)
- NELLIS
- NOSC
- PACAF
- SWA

5 12

AC2ISR Sites

- 1AF
- AFSOC
- AFSPACE
- CAOC (Aviano)
- CAOC (Vicenza)
- JTF - NW
- NORAD

7

JIVA Sites

- AFMIC
- CENTCOM
- DIA
- EUCOM (32nd)
- EUCOM (66 MI)
- EUCOM (JAC)
- JFCOM (PCI3)
- MSIC
- NAIC
- NMIC
- NGIC
- ONI
- PACOM (PASS-H)
- Pentagon
- SOCOM
- SOUTHCOM
- STRATCOM
- USFK
- USSPACECOM
- USTRANSCOM

20 16

Other Sites

- 5AF
- 7AF
- 11AF
- 17TRG
- 23AF
- 480IG
- 497IG

6 6

Totals:

31

41

Key

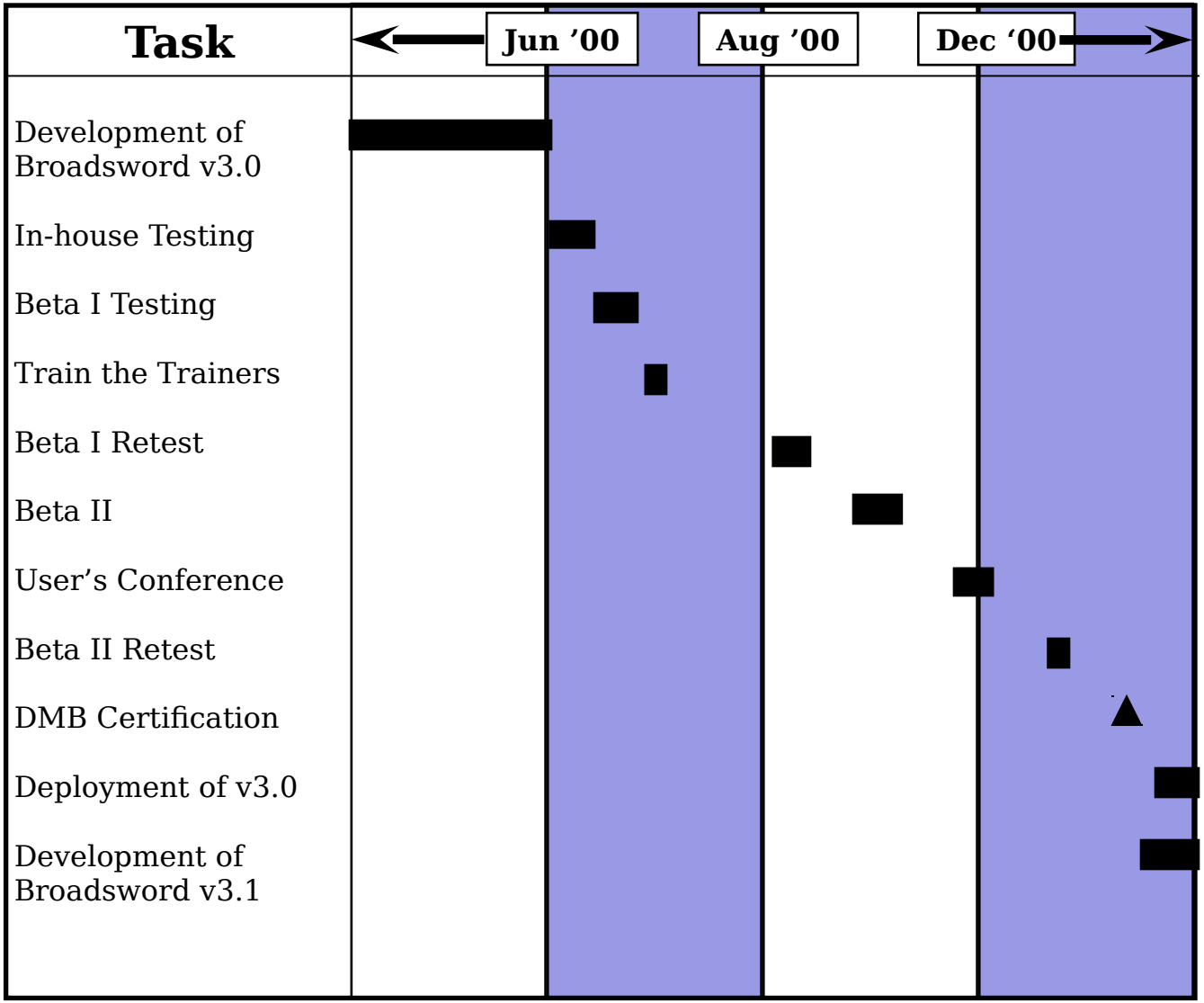
High Side

Low Side

Operational

TBD

SCHEDULE


Task
Jun ’00
Aug ’00
Dec ‘00
Development of Broadsword v3.0
In-house Testing
Beta I Testing
Train the Trainers
Beta I Retest
Beta II
User’s Conference
Beta II Retest
DMB Certification
Deployment of v3.0
Development of Broadsword v3.1

STATUS/SCHEDULE

Train the Trainers (17-21 July)
- Major recommendations

BETA I Testing
- JITF - 4 CAT 1s
- Security - 4 CAT 1s
- JITC - OK

Retested 8-9 August 2000
- Security issues resolved - received IATO for Standalone

Marine Exercise
- Camp Pendleton/Yuma (Shopping Cart/Ordering, Chipping)

Beta II Testing 16 - 27 October 2000
- 480IG - 1 Finding
- JFIC - 4 Findings
- Security - 2 CAT II - received IATO to field
- JITC - No Findings

Plan for Jan DMB Certification to Field

WHERE ARE WE REALLY?

- Correcting major findings from BETA II Testing
- Stability still a concern
  - IE most stable
  - Netscape on PC: Found major problem concerning random new line
  - Netscape on UNIX: Inconsistent in stability
- What are we doing?
  - Dyna Libraries now support most of the menu and bottom buttons
  - Have tested these new libraries - Substantial increase in stability on all platforms (uses MUCH less JavaScript)
  - Currently replacing old functions with new ones - Done by User's Conference and release of 3.0

What’s in Version 3.1

Integration of Trusted Transfer Agent

Client Performance Improvements

YOUR CALL

The Future is Almost Here!

See and touch Broadsword 3.0

Also have:

- TTA
- ISSE Guard
- AFDI
- MTIX (Thursday Only)
- IET
- FIRES

ocated in the demonstration room, all day Tuesday - Thursd

SUMMARY

- Evolutionary Approach (Spiral Development) Implementing New Technologies and Performance Improvements as Risks & Capabilities Allow.

- Bringing BOTH INTEL and C2 together into a single multi-tier

  architecture. Both sides backing and supporting a single effort.

- Broadsword is a framework. It is a beginning. CANNOT BE CONTENT WITH WHAT WE HAVE, ALWAYS CAN DO BETTER!